

kept clean, and actually treated with manure, albeit not of the best quality; in a few instances they were surrounded with stone walls, as were the court yards of all the houses, but more commonly the inroads of cattle were considered sufficiently prevented by strewing thorny branches here and there. With the exception of a sombre looking oak near Bhoomlungtung, and some weeping willows, the arboreous vegetation consists entirely of firs. The shrubby vegetation is northern and so is the herbaceous, but the season for this had not yet arrived. It was here that I first met with the plant called after Mr. James Prinsep; the compliment is not, in Bootan at least, enhanced by any utility possessed by the shrub, which is otherwise a thorny, dangerous looking species. Here too we first saw English looking magpies, larks, and red-legged crows.

[To be continued.]

BIBLIOGRAPHICAL NOTICES.

Observations on the Blood Corpuscles, or Red Particles, of the Mammiferous Animals. By George Gulliver, F.R.S., F.Z.S., Assistant Surgeon to the Royal Regiment of Horse Guards.—*Memoirs in the London and Edinburgh Philosophical Magazine for Jan. Feb. and March 1840.*

As we fully concur in the justice of the author's remark, that a complete history of the blood-corpuscles would form a very acceptable addition to anatomical and zoological science, we proceed to give a short abstract of his observations, referring such of our readers as may be desirous of more complete information on the subject to his original memoirs.

To persons who are but imperfectly acquainted with the blood corpuscles, it might appear that these bodies are mere microscopic curiosities, rather to be classed with some of the apocryphal "wonders of the microscope" than regarded as objects of sober philosophic research. However, some of the most distinguished philosophers of the present day have expressed their conviction of the importance of the red particles of the blood, and we conceive that this view derives additional force from the fact that these curious bodies have now been observed and found to possess regular and determinate forms in no less than 136 different species of the class mammalia alone, for such is the number in which Mr. Gulliver has already measured and examined the blood corpuscles. They had only been described in a few of the mammalia previously to the publication of his researches; but as he promises to continue his observations, and Professor Wagner and M. Mandl, besides some other eminent physio-

logists, have been or still are engaged in a similar line of inquiry, we have good reason to hope that this interesting branch of comparative anatomy will soon receive much of the illustration of which it may be susceptible from the improved resources of modern science.

Of the 136 species in which Mr. Gulliver has at present described the blood corpuscles in the class mammalia, the following table will exhibit at one view the number in each order.

| | |
|--------------------|-----|
| Quadrumana | 31 |
| Cheiroptera | 1 |
| Feræ | 38 |
| Marsupialia | 6 |
| Glires | 19 |
| Edentata | 1 |
| Pachydermata | 9 |
| Ruminantia | 31 |
| Total | 136 |

1. *Quadrumana*. The corpuscles seem to differ but little from those of man.

2. *Cheiroptera*. In the bat the average diameter of the particles is about $\frac{1}{4300}$ th of an inch, a very common size it seems of the corpuscles among the mammiferous animals generally.

3. *Feræ*. The average-sized corpuscles of this order appear to be generally between $\frac{1}{3000}$ th and $\frac{1}{4000}$ th of an inch in diameter. In the *seal* and *dog* they are a little larger; and in the *Javanese Ichneumon* they seem to be as small as in any of the carnivora. In the larger species of the genus *Felis*, as the lion, tiger, and puma, the blood particles are very nearly alike in all respects; and the corpuscles in the smaller species, as the cat, serval, &c. are much of the same diameter, the blood disks in the cat being very slightly smaller than those of the tiger.

4. *Marsupialia*. The blood corpuscles in the interesting animals of this order presented nothing peculiar. The average diameter appears to be between $\frac{1}{4300}$ th and $\frac{1}{3300}$ th of an inch.

5. *Glires*. The common-sized corpuscles appear to be comprehended between $\frac{1}{4300}$ th and $\frac{1}{3200}$ th of an inch in diameter. Of the nineteen species examined nothing remarkable was seen in the blood particles, except some of very small size, though of regular form, in certain species of the genus *Sciurus*. These little disks Mr. Gulliver thinks deserving of further attention.

6. *Edentata*. In the weasel-headed armadillo the blood corpuscles presented nothing unusual; their most common diameter was from $\frac{1}{4000}$ th to $\frac{1}{3200}$ th of an inch.

7. *Pachydermata*. In the elephant the average-sized corpuscles appear to be $\frac{1}{2700}$ th of an inch in diameter, which is larger than any at present known in the mammalia. But to show how little relation there is between the size of the animal and that of its blood disks, the author mentions that they are smaller in the horse than in the mouse; and suggests that those who have the opportunity should examine the blood of the larger *Cetacea*,—a hint which we hope will not be lost to zoologists residing near the sea coast either at home or in the colonies. In the rhinoceros the blood corpuscles appear to be about $\frac{1}{4000}$ th of an inch in diameter, and they are of much the same size in the pig and in the peccary.

8. *Ruminantia*. It is in this order that the most novel and interesting results were obtained. The blood corpuscles of the goat were the smallest known to physiologists before the publication of the author's observations; but in the genus *Moschus*, as it appears from his examination of the blood of the Napu musk deer (see Dublin Medical Press, Nov. 1839, and Annals of Natural History, Dec. 1839), the particles are singularly minute and yet very regular in size and definite in form. He fixes their most common diameter at $\frac{1}{13000}$ th of an inch. In the *Vicugna* and *Guanaco* he shows that the blood disks have a very distinct oval shape, as M. Mandl had previously observed in the dromedary and paco. In Reeves's Muntjac and some other species of the genus *Cervus*, besides many of the common circular disks, the author announces the existence of certain oblong corpuscles of very peculiar appearance and forms, generally lunated or crescentic, with acutely pointed ends, but altogether singularly variable in shape.

Genera et Species Staphylinorum Insectorum Coleopterorum familiae.

Auctore Guil. F. Erichson, &c. &c. Pars prior, accedunt tab. æn. 3. pp. 400. 8vo. Berol. 1839.

The above is the title of an elaborate work executed by Dr. Erichson upon the obscure family of the *Staphylini*. We much rejoice that this difficult task has fallen into such able hands, the careful accuracy of his previous works being a sure guarantee for the successful accomplishment of the present. Since the publication of the monographs of Gravenhorst at the commencement of this century, the most extensive discussion of the family is the abridgement of Mr. Kirby's incorporated by Mr. Stephens in his 'Illustrations of British Entomology,' and we much regret to observe that Dr. Erichson should not have sufficiently controlled national prejudices to do justice to his British fellow-labourers, who notwithstanding the many imperfections of their work, certainly deserve more attention than

Dr. E. has chosen to bestow upon them. The consequence of this will be that very many of the names that Dr. E. has imposed must upon the further elaboration of the family fall into synonyms by those very laws of priority to which in some of his preceding works he has so inflexibly adhered by restoring Fabrician names, upon his consultation of the Fabrician cabinet, to insects which had been re-named subsequently by others owing to the imperfection of the original Fabrician diagnostics. This manifestly evinces very unscientific caprice; for surely the characters in Stephens's work are *never less* characteristic than those in Fabricius, and he therefore has an equal claim to the priority which his date of publication gives him. But time and common justice will set this affair to rights. We cannot here go into a detailed examination of the work before us. It will suffice to observe that a second part is to complete it, which was promised to have been published ere this,—and that it embraces all the *Staphylini*, exotic as well as European. The generic and specific characters are very carefully drawn, and the former aided by figures of the trophi, and in a few instances of the insects themselves. The work as far as yet published comprises an introductory generalization upon their natural characters, affinities, external structure, internal structure, metamorphoses, habits of life, geographical distribution, history of their systematic arrangement, and this is followed by the author's distribution into eleven tribes, viz. 1. Aleocharini; 2. Tachyporini; 3. Staphylinini; 4. Pæderini; 5. Pinophilini; 6. Stenini; 7. Oxytelini; 8. Piestini; 9. Phlæocharini; 10. Omalini; 11. Proteinini. A tabulation follows of the genera comprised in these tribes, and this is succeeded by the body of the work, and the portion now published includes the first two tribes and a part of the third: on its completion we shall enter more into detail upon the subject.

The Petrified Insects of Solenhofen, described by Professor Germar of Halle, with Three Lithographic Plates. In the *Nova Acta Physico-Medica Academiae Cæs. Leopold. Carol. Naturæ Curiosorum*. Vol. XIX. Pt. I.

The learned Professor, whose labours in entomology the lovers of sound science can well appreciate, gives us here an account of 18 insects discovered in the limestone formation of Solenhofen. He had previously described 25 from the lignite of Rod and Arzberg in the Seven Mountains on the Rhine and of Bayreuth. The paper is accompanied by twenty lithographic figures, which greatly assist the descriptions, and indeed without which the latter would be al-